SUSY and Higgs

(Michelangelo Mangano, CERN TH)

Executive summary:

- Very quiet edition for Higgs and SUSY, a factor of 2-3 fewer entries than in the editions of the late 90's, early 00's
- LEP output is fading away, Tevatron run 2 is ramping up, but 1fb-1 samples not yet available for RPP 06
- DM searches becoming a key player in the neutralino section!

Supersymmetry

Encoders:
Exp: L.Pape (ETH, Zurich),
TH: A. de Gouvea (Northwestern University)
DM/AstroPH/Cosmo: K.Olive (U.Minnesota)

New measurements encoded: 74
(129 in 04; 160 in 02; **204 in 00**; 114 in 98)

- LEP: 32 (81; 120; 174)
- Tevatron: 11 (13; 22; 20)
- Theory: 6 (20; 13; 6)
- DM searches: 20 (9)
- Other exp's: 5 (6; 5; 4)

Minireviews:

- Supersymmetry part I: Theory (H.Haber, UCSC) Update April 06
- Supersymmetry part II: Experiments (M. Schmitt, NWU) **NOT UPDATED !**

Breakdown by sparticle/technique

	χ^0 (stable)	χ^0 (unstable)	$\chi^0_{2,3,4}$	$\chi^\pm$	$\tilde{\nu}$	$\tilde{\ell}$	$\tilde{q}$	$\tilde{g}$	$\tilde{b}$	$\tilde{t}$	Misc	TOT
LEP	2	7	3	3	5	7			1	2	2	32
TeV		2		3	2					3	1	11
HERA		1					2			1		4
DM/ Astro	20											20
TH	3							1	1	1		6
Other											1	1
	25	10	3	6	7	7	2	1	2	7	4	74

Comments:

- Reduction in number of entries continues: LEP wrapping up, still only few Tevatron run II results
- Updated theory minireview, with discussion of recent morels (e.g. split SUSY), and new plots (e.g. mass spectra)
- Urgent need to identify a new author for the experimental minireview, in view of the new (hopefully many!) results expected from the Tevatron

Higgs

Encoder: K. Hikasa (KEK)

New measurements encoded: 30

(25 in 04; 42 in 02; **48 in 00; 49 in 98**)

- LEP: 18 (21; 36; 39)
- Tevatron: 12 (1; 5; 3)
- Theory: 0 (3; 1; 6)

Minireview:

- *Searches for Higgs bosons* (P.Igo-Kemenes, CERN EP), updated

Breakdown by sparticle/technique

	H^0 (SM)	H^0 (SUSY)	H^0 (2HDM)	$H^{\pm/\pm\pm}$	TOT
LEP		2	11	5	18
TEV	3	3		6	12
TOT	3	5	11	11	30

Comments/Prospects

- LEP has completed the SM studies, as well as the "exotic Higgs" searches
- Tevatron has entered the game, but the most interesting results are yet to come